

# Back Bearings and Resection



# Back Bearings

- The bearing you would use to retrace your steps.
- Not necessary to move to the observation point as the back bearing can be calculated



# Calculating a back bearing

- If your forward bearing is less than  $180^\circ$  you should add  $180^\circ$
- e.g.

Forward bearing of  $95^\circ$  you add  $180^\circ$  which leaves you with a back bearing of ?

$$\begin{array}{r} 95 \\ +180 \\ \hline 275^\circ \end{array}$$

- Once completed lay the new bearing onto your compass



# Calculating a back bearing

- If your forward bearing is **more than 180°** you should **subtract 180°** e.g.
- Forward bearing of 290° you subtract 180° which leaves you with a back bearing of ?

290

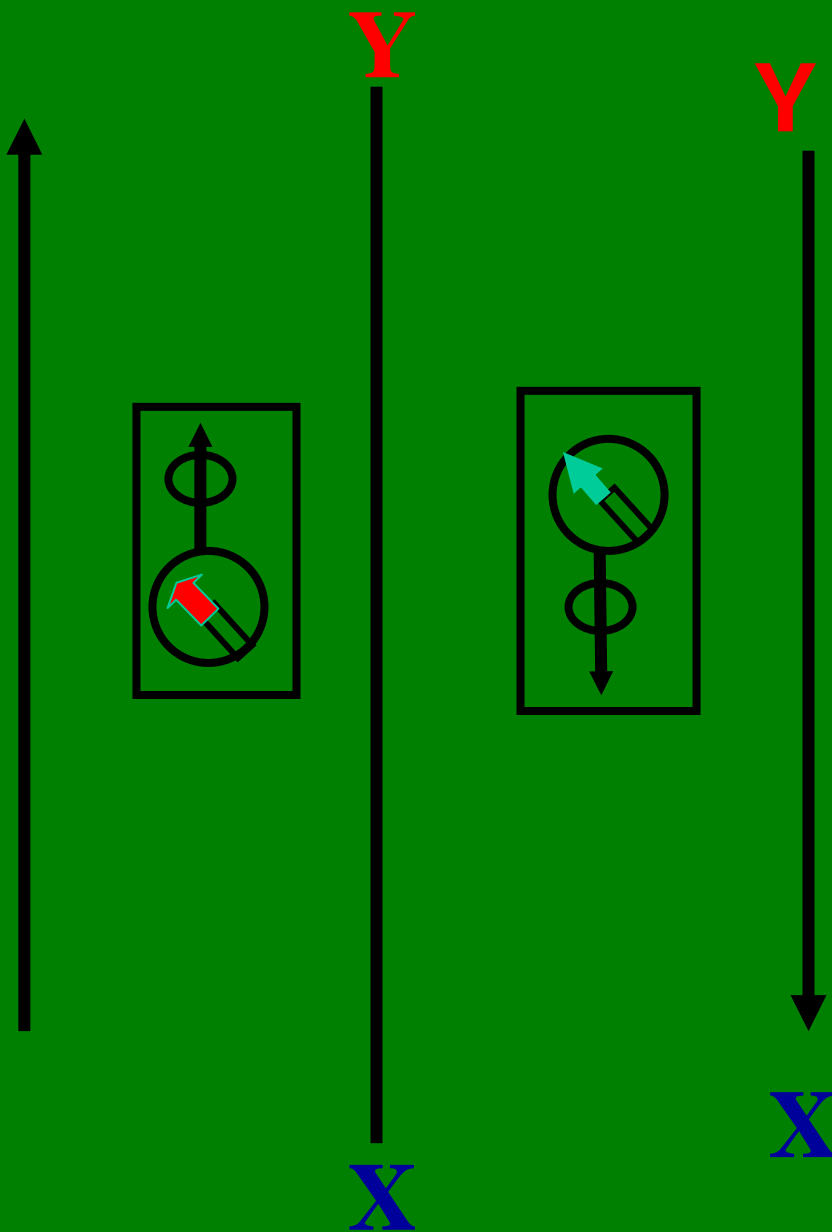
-180

**110°**

- **Once completed lay the new bearing onto your compass**



**X to Y**  
**ROUTE**  
**OUT**  
in this  
direction  
on a  
forward  
bearing



**Y to X**  
**RETURN**  
**ROUTE**  
on this  
Back  
Bearing



# Back Bearing

- To use the Compass for a Back Bearing
- Keep the compass on the **Forward Bearing** you have taken
- Rotate the COMPASS HOUSING through 180° Degrees
- The compass is now set on a back bearing
- PRACTICE MAKES “PERFECT”



# Question?

You are on a bearing of  $300^\circ$  Degrees

What is the Back Bearing?



Any Questions on

# Back Bearings



# 18. Finding Position by Resection

To find your exact position  
when you are unsure.



# Resection

- With a map set properly
- 3 objects need to be selected
- Identified on your map
- Should be approx. 500 -1000m away
- Separated by approx. 70° - 90° apart



# Resection

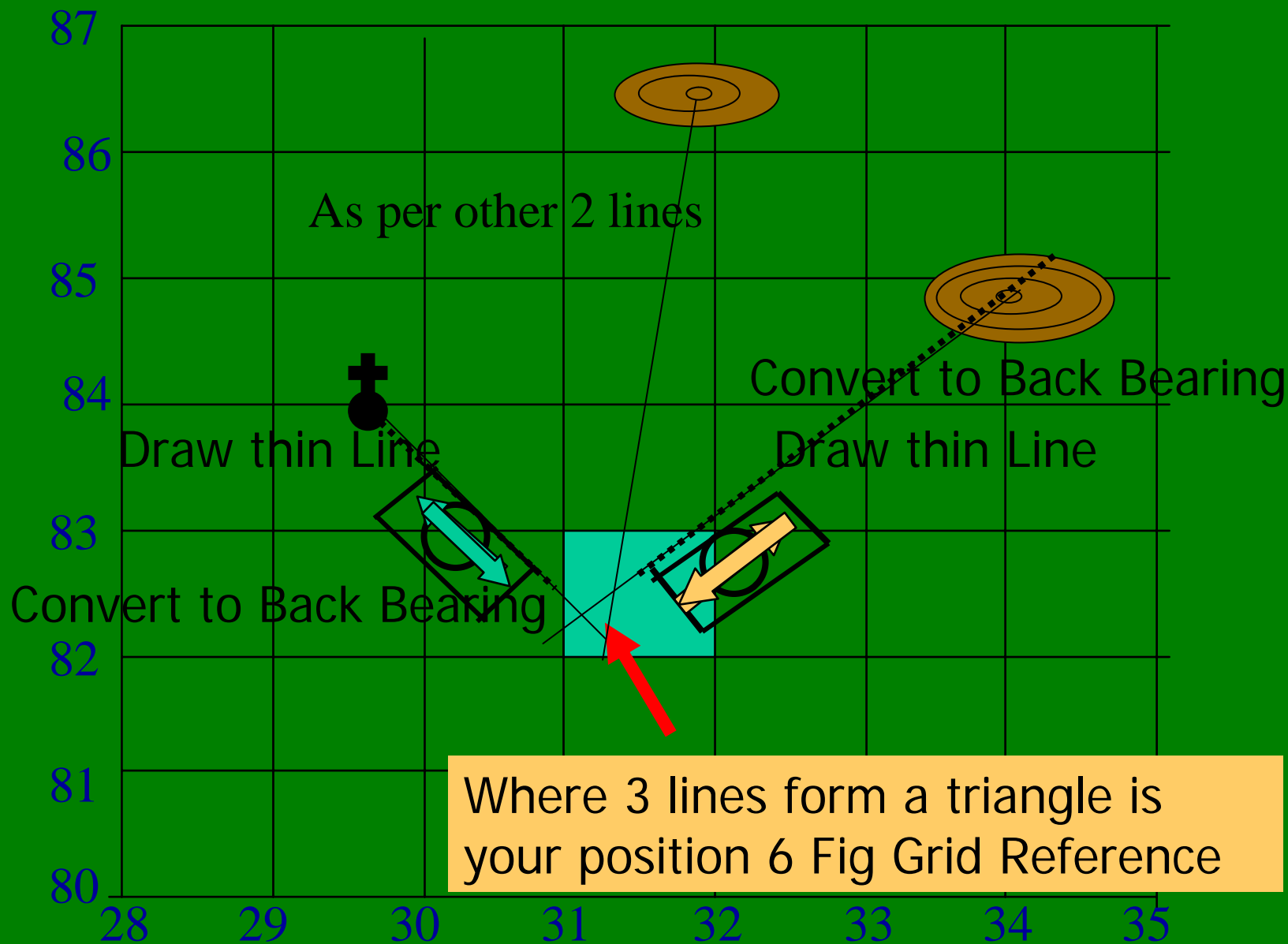
- From your position take a Magnetic Bearing on each object in turn
- Convert to Back Bearing
- Then convert into a Grid Bearing
- *Magnetic to Grid “Get Rid”*
- Remember to use the GMA for that map



# Resection

- Set the Grid Bearing on to the compass
- Plot each Grid Bearing on to the map in turn using a fine pencil
- Where the 3 lines cross is your position





Example

# Question?

*You know you are somewhere  
in Grid Square 6621*

You can see a Junction at Grid  
658216, You can see another at  
Grid 664229

***What grid are you at?***



Any Questions on

Resection





**The End**

**The End**



**Presented by**

**"Come on the Micks"**